

POPPET VALVES AIR/VACUUM

Series AF/AG

AF

G1/8 ÷ G1 1/2 Poppet valves for compressed air

- Wide range: G1/8 - G1/4 - G3/8 - G1/2 - G3/4 - G1 - G1 1/2
- Original Univer poppet system appreciated for decades
- Suitable for applications where high flow rate and high cycles rates are required
- G1 - 2/2 version for blowing



TECHNICAL CHARACTERISTICS

Ambient temperature	+50 °C max						
Fluid temperature	-5 ÷ +60 °C						
Fluid	filtered air 50 µm, lubricated or not						
Commutation system	poppet						
Ways/Positions	2/2 NC (upon request), 3/2 NC, 3/2 NO, 3/2 NC-NO						
Pressure	max 10 bar						
Control	pneumatic, indirect electropneumatic						
Return	pneumomechanical spring						
Connections	G1/8	G1/4	G3/8	G1/2	G3/4	G1	G1 1/2
Nominal Ø (mm)	5,5	8	10	15	19	25	39
Nominal flow rate (NI/min)	580	1100	1500	5400	6500	13500	35000

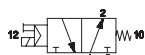
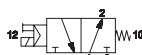
CONSTRUCTIVE CHARACTERISTICS

Valve body	G1/8 ÷ G1 = zamak
	G1 1/2 = aluminium
Seals	nitrile rubber, polyurethane
Actuators	G1/8 ÷ G1 = zamak
	G1 1/2 = aluminium
Spool	G1/8 ÷ G3/8 = aluminium
	G1/2 ÷ G1 1/2 = steel + plastic

ELECTRIC CHARACTERISTICS

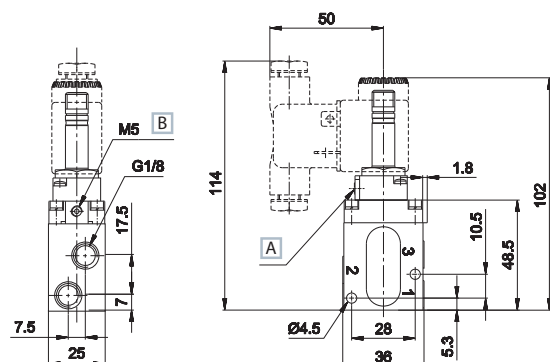
	G1/8 G1/4	G1/4 ÷ G1 1/2
Electropilot	U1	U2
Coil	DA	DB
Power consumption	3,5 W (DC) - 5 VA (AC)	11 W (DC) - 10 VA (AC)
Connector	AM-5110	AM-5111
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC	
Manual override	with 2 position screw	

G1/8 - G1/4 - G3/8 Electrovalves

3/2 NC G1/8
AF-25003/2 NO G1/8
AF-25013/2 NC G1/4 - G3/8
AF-2510
AF-2517
AF-2520
AF-25243/2 NO G1/4 - G3/8
AF-2511
AF-2518
AF-2521
AF-2525

Connect.	Control	Return	Flow rate (NI/min)	Ø mm	Times (ms)		Pressure bar		Weight Kg	Coil	Part no.
					En.	De-en.	min.	max.			
3/2 NC	G1/8 electric amplified	pneumomechanical spring	580	5,5	15	20	1,5	10	0,25	U1	AF-2500
	G1/4 electric amplified	pneumomechanical spring	1100	8	20	23	1,6	10	0,58	U1	AF-2510
	G1/4 electric amplified	pneumomechanical spring	1100	8	20	23	1,6	10	0,70	U2	AF-2517
	G3/8 electric amplified	pneumomechanical spring	1500	10	20	23	1,6	10	0,56	U1	AF-2520
3/2 NO	G3/8 electric amplified	pneumomechanical spring	1500	10	20	23	1,6	10	0,70	U2	AF-2524
	G1/8 electric amplified	pneumomechanical spring	580	5,5	15	20	1,5	10	0,25	U1	AF-2501
	G1/4 electric amplified	pneumomechanical spring	1100	8	15	20	1,6	10	0,58	U1	AF-2511
	G1/4 electric amplified	pneumomechanical spring	1100	8	15	20	1,6	10	0,70	U2	AF-2518
	G3/8 electric amplified	pneumomechanical spring	1500	10	15	20	1,6	10	0,56	U1	AF-2521
	G3/8 electric amplified	pneumomechanical spring	1500	10	15	20	1,6	10	0,70	U2	AF-2525

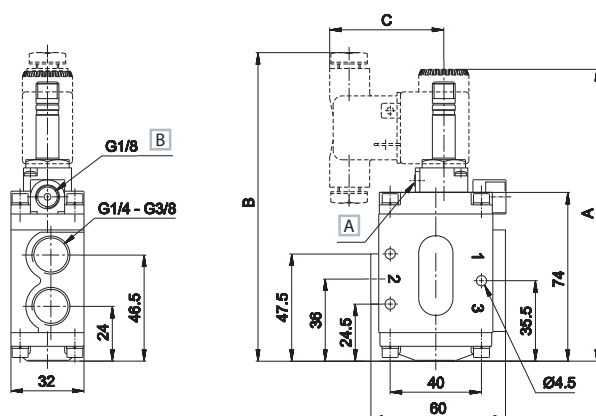
G1/8



- 1 = Supply port
2 = Use
3 = Exhaust

- A Manual override
B External servoassistance of the pilot

G1/4 - G3/8



- 1 = Supply port
2 = Use
3 = Exhaust

- A Manual override
B External servoassistance of the pilot

	A	B	C
U1	129	136	50
U2	140,5	150	51,5

Upon request:

- external servoassistance of the pilot
- G1/4 - G3/8 U2 without manual override

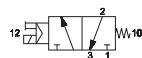
Electrovalves are supplied without coil, connector and locking ring

G1/2 - G3/4 - G1 - G1 1/2 Electrovalves



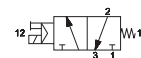
3/2 NC G1/2 - G3/4 - G1

AF-2530
AF-2540
AF-2545



3/2 NC G1 1/2

AF-2565



3/2 NO G1/2 - G3/4 - G1

AF-2531
AF-2541
AF-2546



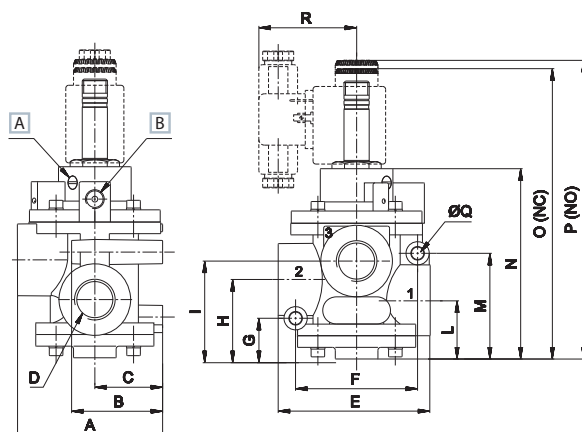
3/2 NO G1 1/2

AF-2561



Connect.	Control	Return	Flow rate (Nl/min)	Ø mm	Times (ms)		Pressure bar		Weight Kg	Coil	Part no.
3/2 NC	G1/2 electric amplified	pneumomechanical spring	5400	15	17	27	2	10	1,19	U2	AF-2530
	G3/4 electric amplified	pneumomechanical spring	6500	19	17	27	2	10	1,13	U2	AF-2540
	G1 electric amplified	pneumomechanical spring	13500	25	20	32	2,2	10	1,62	U2	AF-2545
	G1 1/2 electric amplified	pneumomechanical spring	35000	39	47	22	2,5	10	2,27	U2	AF-2565
3/2 NO	G1/2 electric amplified	pneumomechanical spring	5400	15	30	22	3	10	1,19	U2	AF-2531
	G3/4 electric amplified	pneumomechanical spring	6500	19	30	22	3	10	1,13	U2	AF-2541
	G1 electric amplified	pneumomechanical spring	13500	25	28	23	3	10	1,62	U2	AF-2546
	G1 1/2 electric amplified	pneumomechanical spring	35000	39	55	20	3	10	2,27	U2	AF-2561

■ G1/2 - G3/4 - G1

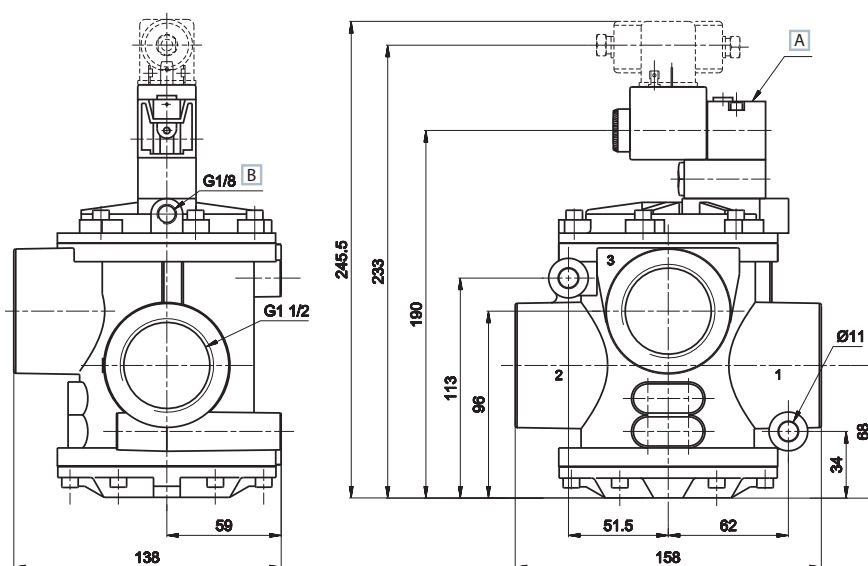


1 = Supply port
2 = Use
3 = Exhaust

A Manual override
B External servoassistance
of the pilot

	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R
G1/2	75	47	35	G1/2	78,5	63	21	41	50,5	30	54,5	100	150	154	6,4	50,5
G3/4	75	47	35	G3/4	78,5	63	21	41	50,5	30	54,5	100	150	154	6,4	50,5
G1	89	55	40	G1	101	76	25,5	51	64	38	62,5	115	167	175	8,4	50

■ G1 1/2

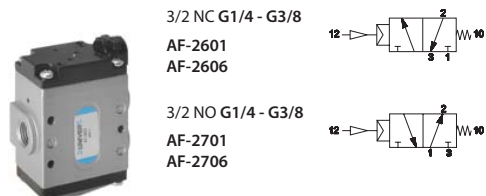
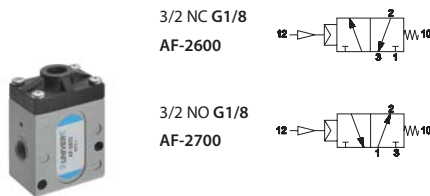


1 = Supply port
2 = Use
3 = Exhaust

A Manual override
B External servoassistance
of the pilot

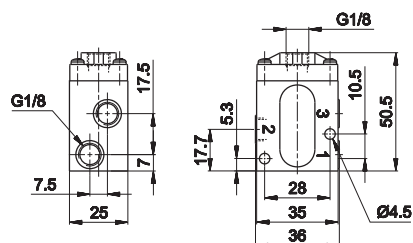
Electrovalves are supplied without coil, connector and locking ring

G1/8 - G1/4 - G3/8 Servo valves



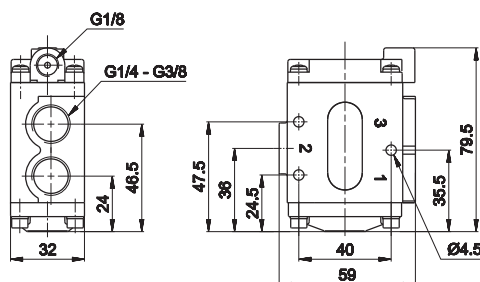
Connect.	Control	Return	Flow rate	Ø	Times (ms)		Pressure bar		Weight	Part no.
			(Nl/min)	mm	En.	De-en.	supply	control		
G1/8	pneumatic amplified	pneumomechanical spring	580	5,5	5	8	6	3,5	0,21	AF-2600
G1/4	pneumatic amplified	pneumomechanical spring	1100	8	5	7	6	4	0,54	AF-2601
G3/8	pneumatic amplified	pneumomechanical spring	1500	10	5	7	6	4	0,52	AF-2606
G1/8	pneumatic amplified	pneumomechanical spring	580	5,5	5	8	6	3,5	0,21	AF-2700
G1/4	pneumatic amplified	pneumomechanical spring	1100	8	5	7	6	4	0,54	AF-2701
G3/8	pneumatic amplified	pneumomechanical spring	1500	10	5	7	6	4	0,52	AF-2706

G1/8

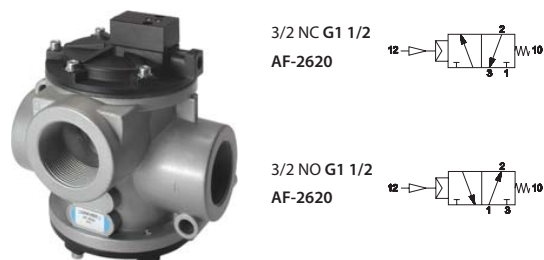


1 = Supply port
2 = Use
3 = Exhaust

G1/4 - G3/8

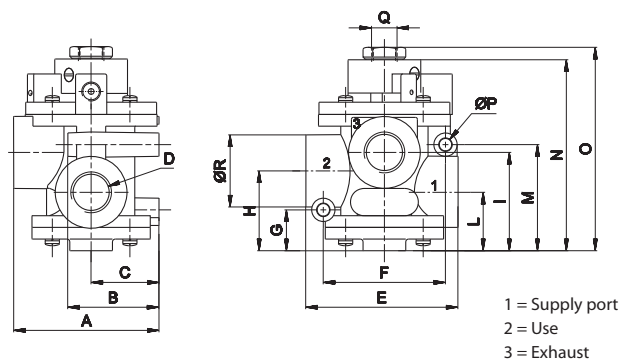


G1/2 - G3/4 - G1 - G1 1/2 Servo valves

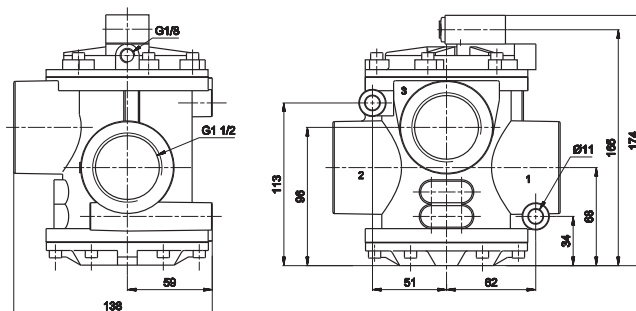


Connect.	Control	Return	Flow rate	Ø	Times (ms)		Pressure bar		Weight	Part no.
			(Nl/min)	mm	En.	De-en.	supply	control	Kg	
G1/2	pneumatic amplified	pneumomechanical spring	5400	15	7	10	6	4	1,27	AF-2603
G3/4	pneumatic amplified	pneumomechanical spring	6500	19	7	10	6	4	1,10	AF-2610
G1	pneumatic amplified	pneumomechanical spring	13500	25	10	12	6	4	1,59	AF-2615
G1 1/2	pneumatic amplified	pneumomechanical spring	35000	39	36	15	6	4	2,19	AF-2620

G1/2 - G3/4 - G1



G1 1/2



	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R
G1/2	75	47	35	G1/2	78,5	63	21	41	50,5	30	54,5	100	105	6,4	G1/4	37
G3/4	75	47	35	G3/4	78,5	63	21	41	50,5	30	54,5	100	105	6,4	G1/4	37
G1	88,5	55	40	G1	101	76	25,5	51	64	38	62,5	115	120,5	8,4	G1/4	45

Technical modifications keep in reserve !

(2020/10)

AG

Poppet valves for vacuum G1/8 ÷ G1 1/2

- A complete range: G1/8 - G1/4 - G3/8 - G1/2 - G3/4 - G1 - G1 1/2
- Original Univer poppet system appreciated for decades
- Servoassisted version
- A complete range of solenoid valves and pneumatic valves for vacuum with connection from G1/8 ÷ G1 1/2 to satisfy all requirements
- The internal system ensures high reliability and long life



TECHNICAL CHARACTERISTICS

Ambient temperature	+50 °C						
Fluid temperature	-5 ÷ +60 °C						
Fluid	filtered air 50 µm lubricated or not - vacuum						
Commutation system	poppet						
Ways/Positions	2/2 NC (upon request), 3/2 NC, 3/2 NO, 3/2 NC-NO						
Pressure	max 10 bar						
Control	indirect vacuum						
Return	automatic by vacuum						
Connections	G1/8	G1/4	G3/8	G1/2	G3/4	G1	G1 1/2
Nominal Ø (mm)	5,5	8	10	15	19	25	39

CONSTRUCTIVE CHARACTERISTICS

Valve body	G1/8 ÷ G1 = zamak G1 1/2 = aluminium
Seals	solenoid operated valve, servoassisted by compressed air conical plungers and Vulkollan diaphragm solenoid operated valve, servoassisted by vacuum silicon plugs
Actuators	G1/8 ÷ G1 = zamak G1 1/2 = aluminium
Spool	G1/8 ÷ G3/8 = aluminium G1/2 ÷ G1 1/2 = steel + plastic

ELECTRIC CHARACTERISTICS

	G1/8 G1/4	G1/4 ÷ G1 1/2
Electropilot	U1	U2
Coil	DA	DB
Power consumption	3,5 W (DC) - 5 VA (AC)	11 W (DC) - 10 VA (AC)
Connector	AM-5110	AM-5111
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC	
Manual override	with 2 positions screw	

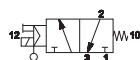
Technical modifications keep in reserve !

(2020/10)

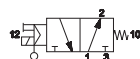
Solenoid valves 3/2 for vacuum, servoassisted by compressed air



3/2 NC G1/8
AG-3001



3/2 NO G1/8
AG-3002



3/2 NC G1/4 - G3/8
AG-3009
AG-3011

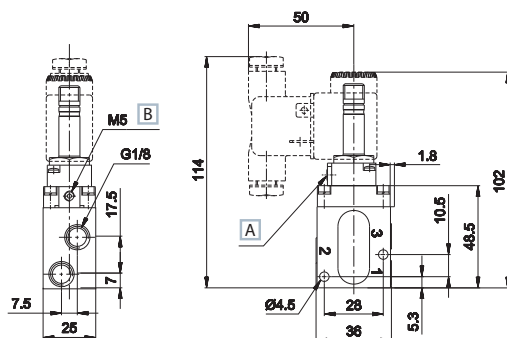


3/2 NO G1/4 - G3/8
AG-3010
AG-3012



Connect.	Control	Return	Ø	Times (ms)		Minimum control	Pump	Max vacuum		Weight	Coil	Part no.
			mm	En.	De-en.	pressure bar	max m³/h	mm Hg	Torr	Kg		
3/2 NC	G1/8	electric	5,5	14	25	1,5	1,5	759,5	0,5	0,25	U1	AG-3001
	G1/4	amplified	8	16	27	2,5	4	759,5	0,5	0,58	U2	AG-3009
	G3/8	mechanical spring	10	16	27	2,5	10	759,5	0,5	0,56	U2	AG-3011
3/2 NO	G1/8	electric	5,5	14	25	1,5	1,5	759,5	0,5	0,25	U1	AG-3002
	G1/4	amplified	8	16	27	2,5	4	759,5	0,5	0,58	U2	AG-3010
	G3/8	mechanical spring	10	16	27	2,5	10	759,5	0,5	0,56	U2	AG-3012

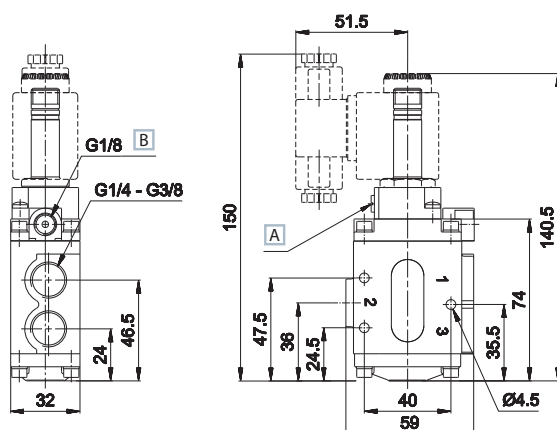
■ G1/8



- 1 = Supply port (vacuum)
2 = Use
3 = Exhaust

- A Manual override
B Supply port for external servoassistance of the pilot

■ G1/4 - G3/8



- 1 = Supply port (vacuum)
2 = Use
3 = Exhaust

- A Manual override
B Supply port for external servoassistance of the pilot

Upon request:

- external servoassistance of the pilot
- G1/4 - G3/8 U2 without manual override

Electrovalves are supplied without coil, connector and locking ring

Solenoid valves 3/2 for vacuum, servoassisted by compressed air



3/2 NC G1/2 - G3/4 - G1

AG-3020
AG-3040
AG-3050



3/2 NO G1/2 - G3/4 - G1

AG-3021
AG-3041
AG-3051



3/2 NC G1 1/2

AG-3062



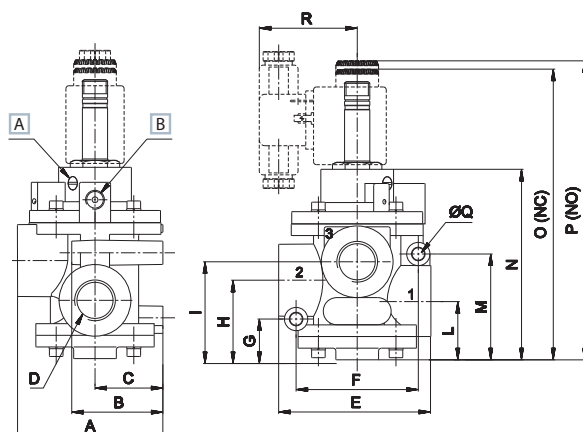
3/2 NO G1 1/2

AG-3063



Connect.	Control	Return	Ø	Times (ms)		Minimum control	Pump	Max vacuum		Weight	Coil	Part.no
			mm	En.	Dis.	pressure bar	max m³/h	mm Hg	Torr	Kg		
G1/2	electric amplified	mechanical spring	15	16	40	3	20	759,5	0,5	1,19	U2	AG-3020
G3/4			19	16	40	3	35	759,5	0,5	1,13	U2	AG-3040
G1			25	18	42	3	90	759,5	0,5	1,62	U2	AG-3050
G1 1/2			39	60	38	4	180	759,5	0,5	2,25	U2	AG-3062
G1/2	electric amplified	mechanical spring	15	16	40	3	20	759,5	0,5	1,19	U2	AG-3021
G3/4			19	16	40	3	35	759,5	0,5	1,13	U2	AG-3041
G1			25	18	42	3	90	759,5	0,5	1,62	U2	AG-3051
G1 1/2			39	60	38	4	180	759,5	0,5	2,25	U2	AG-3063

■ G1/2 - G3/4 - G1

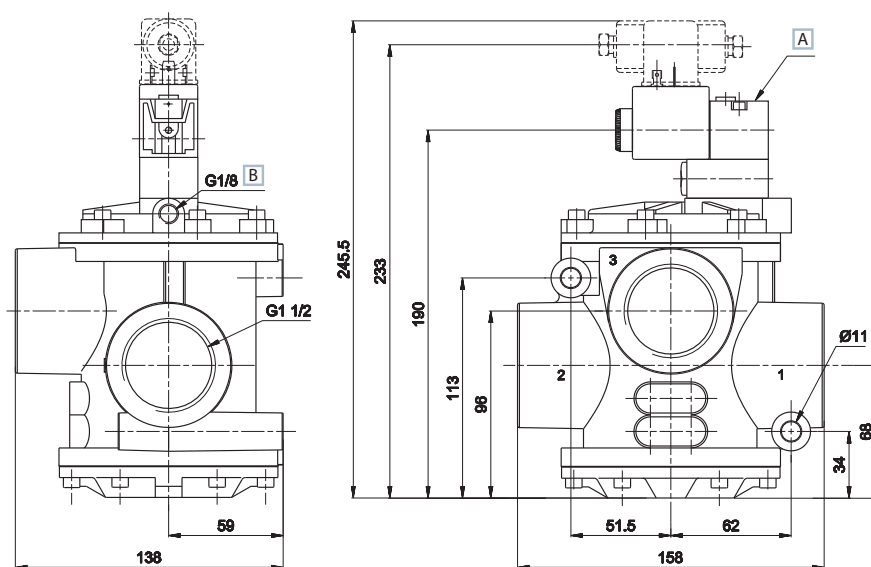


- 1 = Supply port
2 = Use
3 = Exhaust

- A Manual override
B Supply port for external servoassistance of the pilot

	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R
G1/2	75	47	35	G1/2	78,5	63	21	41	50,5	30	54,5	100	150	154	6,4	50,5
G3/4	75	47	35	G3/4	78,5	63	21	41	50,5	30	54,5	100	150	154	6,4	50,5
G1	89	55	40	G1	101	76	25,5	51	64	38	62,5	115	167	175	8,4	50

■ G1 1/2



- 1 = Supply port
2 = Use
3 = Exhaust

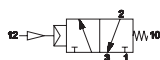
- A Manual override
B Supply port for external servoassistance of the pilot

Electrovalves are supplied without coil, connector and locking ring

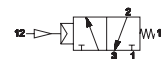
Servovalves 3/2 for vacuum servoassisted by compressed air



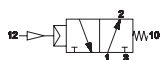
3/2 NC G1/8
AG-3071



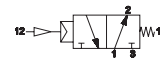
3/2 NC G1/4 - G3/8
AG-3073
AG-3075



3/2 NO G1/8
AG-3072

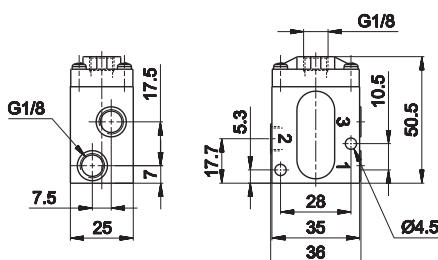


3/2 NO G1/4 - G3/8
AG-3074
AG-3076



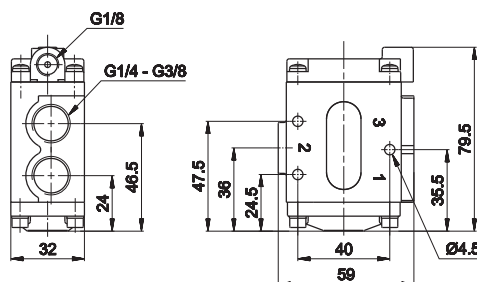
	Connect.	Control	Return	Ø	Times (ms)		Minimum control pressure bar	Pump max m³/h	Max vacuum		Weight Kg	Part no.
					En.	De-en.			mm Hg	Torr		
3/2 NC	G1/8	pneumatic amplified	mechanical spring	5,5	3	6	1,5	1,5	759,5	0,5	0,21	AG-3071
	G1/4			8	4	8	2,5	4	759,5	0,5	0,54	AG-3073
	G3/8			10	4	8	2,5	10	759,5	0,5	0,52	AG-3075
3/2 NO	G1/8	pneumatic amplified	mechanical spring	5,5	3	6	1,5	1,5	759,5	0,5	0,21	AG-3072
	G1/4			8	4	8	2,5	4	759,5	0,5	0,54	AG-3074
	G3/8			10	4	8	2,5	10	759,5	0,5	0,52	AG-3076

G1/8



1 = Supply port (vacuum)
2 = Use
3 = Exhaust

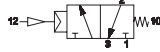
G1/4 - G3/8



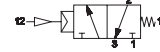
Servovalves 3/2 for vacuum servoassisted by compressed air



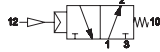
3/2 NC G1/2 - G3/4 - G1
AG-3081
AG-3091
AG-3100



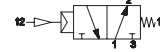
3/2 NC G1 1/2
AG-3110



3/2 NO G1/2 - G3/4 - G1
AG-3082
AG-3092
AG-3101

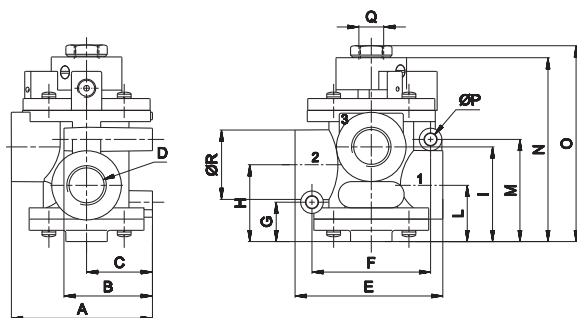


3/2 NO G1 1/2
AG-3111



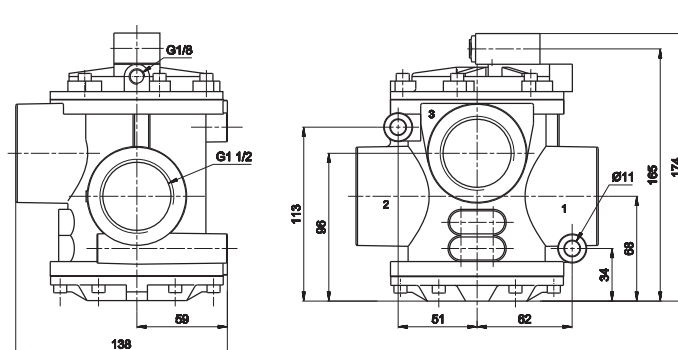
	Connect.	Control	Return	Ø	Times (ms)		Minimum control pressure bar	Pump max m³/h	Max vacuum		Weight Kg	Part no.
					En.	De-en.			mm Hg	Torr		
3/2 NC	G1/2	pneumatic amplified	mechanical spring	15	6	15	3	20	759,5	0,5	1,16	AG-3081
	G3/4			19	6	15	3	35	759,5	0,5	1,10	AG-3091
	G1			25	7	16	3	90	759,5	0,5	1,59	AG-3100
	G1 1/2			39	65	25	4	180	759,5	0,5	2,19	AG-3110
3/2 NO	G1/2	pneumatic amplified	mechanical spring	15	6	15	3	20	759,5	0,5	1,16	AG-3082
	G3/4			19	6	15	3	35	759,5	0,5	1,10	AG-3092
	G1			25	7	16	3	90	759,5	0,5	1,59	AG-3101
	G1 1/2			39	65	25	4	180	759,5	0,5	2,19	AG-3111

G1/2 - G3/4 - G1



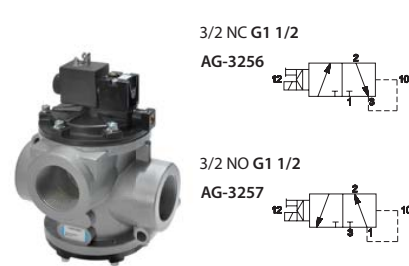
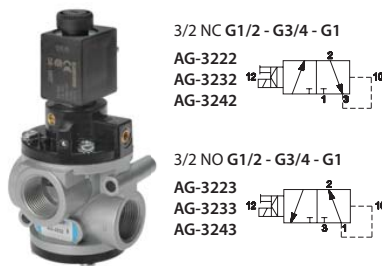
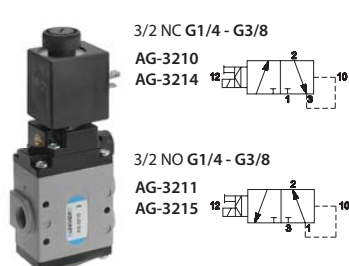
	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R
G1/2	75	47	35	G1/2	78,5	63	21	41	50,5	30	54,5	100	105	6,4	G1/4	37
G3/4	75	47	35	G3/4	78,5	63	21	41	50,5	30	54,5	100	105	6,4	G1/4	37
G1	88,5	55	40	G1	101	76	25,5	51	64	38	62,5	115	120,5	8,4	G1/4	45

G1 1/2



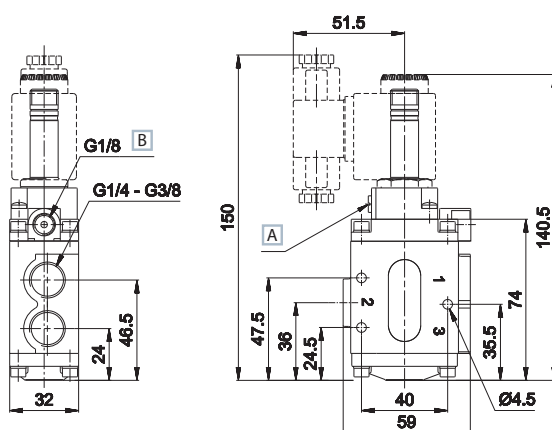
1 = Supply port (vacuum)
2 = Use
3 = Exhaust

Electrovalves 3/2 for direct vacuum servoassisted by vacuum

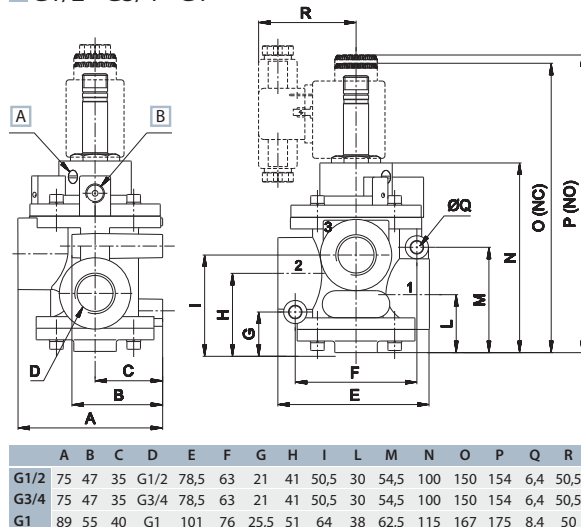


	Connect.	Control	Return	Ø mm	Times (ms)		Pump max m³/h	Min. vacuum		Max vacuum		Weight Kg	Coil	Part no.
					En.	De-en.		mm Hg	Torr	mm Hg	Torr			
3/2 NC	G1/4	electric amplified	vacuum	8	25	16	4	150	610	759,5	0,5	0,52	U2	AG-3210
	G3/8			10	25	16	10	150	610	759,5	0,5	0,56	U2	AG-3214
	G1/2			15	30	15	20	150	610	759,5	0,5	1,19	U2	AG-3222
	G3/4			19	30	15	35	150	610	759,5	0,5	1,13	U2	AG-3232
	G1			25	38	18	90	150	610	759,5	0,5	1,62	U2	AG-3242
3/2 NO	G1 1/2	electric amplified	vacuum	39	75	50	100	150	610	759,5	0,5	2	U2	AG-3256
	G1/4			8	20	14	4	150	610	759,5	0,5	0,58	U2	AG-3211
	G3/8			10	20	14	10	150	610	759,5	0,5	0,56	U2	AG-3215
	G1/2			15	20	18	20	150	610	759,5	0,5	1,19	U2	AG-3223
	G3/4			19	20	18	35	150	610	759,5	0,5	1,13	U2	AG-3233
	G1			25	25	20	90	150	610	759,5	0,5	1,62	U2	AG-3243
	G1 1/2			39	70	60	100	150	610	759,5	0,5	2	U2	AG-3257

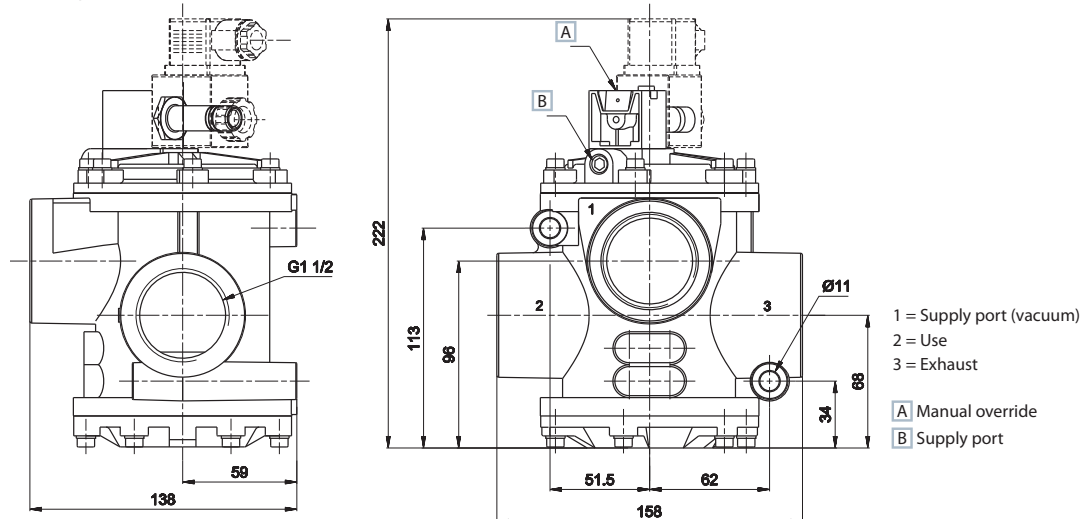
■ G1/4 - G3/8



■ G1/2 - G3/4 - G1

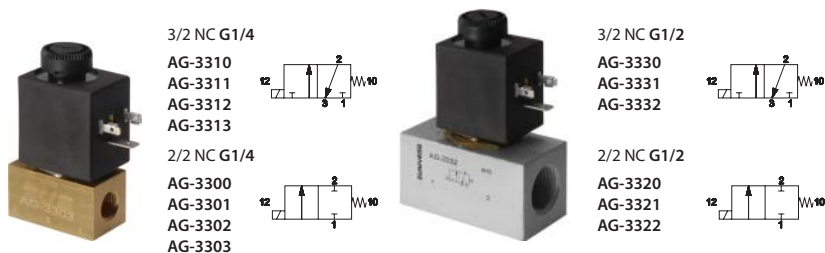


■ G1 1/2



For 2/2 version put a cup on the exhaust (3)
Electrovalves are supplied without coil, connector and locking ring

Electrovalves 2/2 - 3/2 for vacuum direct acting



Material:

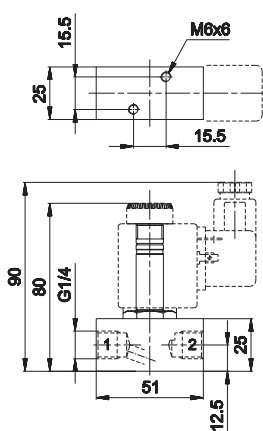
valve body	G1/4 = brass
	G1/2 = aluminium
tube/sleeve	stainless steel
nucleus and spring	stainless steel
seals (a)	G1/4 = NBR
	G1/2 = vulkollan

(a) = vulkollan + NBR for valves 3/2 version

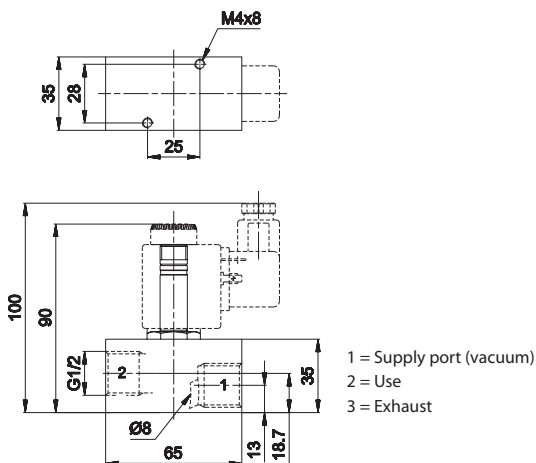
Connect.	Control	Return	Ø	Times (ms)		Pump	Max vacuum		Weight	Part no.
			mm	En.	De-en.	max m³/h	mm Hg	Torr	Kg	
G1/4	electric	mechanical spring	3-3*	10	10	1,8	759,5	0,5	0,22	AG-3310
G1/4			4-3*	12	8	2,5	759,5	0,5	0,22	AG-3311
G1/4			5-3*	13	8	4	759,5	0,5	0,22	AG-3312
G1/4			6-3*	15	8	5	759,5	0,5	0,22	AG-3313
G1/2			8-3*	17	8	6	759,5	0,5	0,25	AG-3330
G1/2			10-3*	20	10	7,5	759,5	0,5	0,25	AG-3331
G1/2			11-3*	28	10	10	759,5	0,5	0,25	AG-3332
G1/4	electric	mechanical spring	3	10	-	1,8	759,5	0,5	0,22	AG-3300
G1/4			4	12	-	2,5	759,5	0,5	0,22	AG-3301
G1/4			5	13	-	4	759,5	0,5	0,22	AG-3302
G1/4			6	15	-	5	759,5	0,5	0,22	AG-3303
G1/2			8	17	-	6	759,5	0,5	0,25	AG-3320
G1/2			10	20	-	7,5	759,5	0,5	0,25	AG-3321
G1/2			11	28	-	10	759,5	0,5	0,25	AG-3322

* = solenoid valves with 3 mm fixed exhaust

■ G1/4



■ G1/2



Coil U2 - 17 VA

Voltage	
24 V CA - 50/60 Hz	DB-0607
110 V CA - 50/60 Hz	DB-0608
220 V CA - 50/60 Hz	DB-0610

Electrovalves are supplied without coil, connector and locking ring